

# B.A.R.C.'s Bark

Volume XXIII - Issue 9

September, 1998

## EXTRA! EXTRA! BARCfest and ARRL District Convention on September 27th

### President's Notes

Don't look now, but BARCfest is upon us already. Final preparations are being made by the BARCfest Chairman, Dan, NØNLS for the 45th Annual BARCfest and it should be a good one! Lots of flyers have been handed out, advertisements placed, prizes purchased and vendors notified of our impending swapfest. We anticipate another sellout this year as we have had table reservations coming in since July! So, if you will need a table I suggest you get one pronto! A reservation form is included in this issue. We still need volunteers for a variety of BARCfest duties, including cashiers, announcers, VE's, Talk-in, Set Up and Take Down help, etc.. Please call Dan and let him know if you can assist. By the way, I just received confirmation that ICOM's "Funmobile" will be at the BARCfest too. This colorful RV is really interesting with beautiful displays of the latest amateur, commercial and marine radios and accessories from ICOM.

Our August meeting again was well attended and our ATV program was exceptional with a very interesting, informative discussion on the principles of ATV along with plenty of equipment examples. Thanks again to Jim Andrews, WAØNHD for this excellent presentation. Jim's ATV column is (see "minutes" cont. on page 2)

### Meeting Minutes

#### Board Meeting - Aug 3, 1998

**Present:** Jack/WMØG, Jim/NØVLE, Rip/NVØM, Ellie/NØQCX, Randy/KØRCC, Dan/NØNLS and Mary/ BARC's Bark Newsletter editor. Treasurer Dave/KEØOG was on vacation.

#### Secretary's Report:

The minutes from the last Board meeting were read and approved as published in the July newsletter.

**Trustee's Report:** The upgrade for the re-

peater controller cost less than anticipated (\$40). It was ordered and will be installed before the next Board meeting.

**Membership Report:** Randy/KØRCC has taken over as Membership Chair, and now has the data base converted to a format where he can generate "Welcome New Member" letters and such. We now have 160 members.

**BARC Juniors Coordinator Report:** Eleven BARC Jrs. are slated to give presentations at the Youth Forum at BARCfest. Each speaker came up with his or her own topic -- and they're all different! The speakers are: Amory/ KCØBCB, Huck/ KCØAGV, David/ KCØDDR, Sarah/ KBØZRV, Chapman/ KBØPON, Grant/ KBØZQX, Walt/

KCØBPC, Tyler/ KBØSHT, Tracy/ KBØUBX, Blair/ KBØROM and Crystal/ KIØNR.

**BARCfest:** Table reservations are coming in at a good clip now. In addition to the 1200+ flyers that have been distributed around, people are finding the table reservation form on our web site, and are using it.

**New Business:** The Board discussed setting up meeting programs for the first half of 1999.

Jack/WMØG has suggested BARC should set up a scholarship fund for Boulder County student hams. The Board agreed it was a good idea, so Jack will look into the idea further.

*Submitted by:*

Randy Cassingham/KØRCC

BARC Secretary

( BARC General Meeting Minutes are Continued on pages 7 and 8 )

### NOTICE !!

**September BARC Meeting has been changed to Tuesday, September 8, 1998 at NIST, Rm. 1107**

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---- Serving the Boulder Amateur Radio Community ----



**Boulder Amateur Radio Club****P.O. Box 17362****Boulder, CO 80308-0362****President - Jack Ciaccia, WMØG****303-665-8037****WMØG@aol.com****Vice President - Jim Layman, NØVLE****303-665-2711****jim.layman@noaa.gov****Secretary and Membership Chairman****Randy Cassingham, KØRCC****303-664-5366****KØRCC@thisistrue.com****Treasurer - Dave Casler, KEØOG****303-665-0510****KEØOG@msn.com****Trustee - Rip Van Winkle, NVØM****303-494-5578****NVØM@ix.netcom.com****BARC Jr. - Ellie Van Winkle, NØQCX****303-494-5578****NVØM@ix.netcom.com****BARCfest - Dan Wisotzkey, NØNLS****303-665-8367****NØNLS@aol.com****Newsletter Editor - Mary Ciaccia****303-665-8037****FAX: 303-666-8613****WMØG@aol.com****BARC Repeater - WØDK****146.700 ( -600 KHz offset )****100 Hz PL****BARC 24 Hour Phone Number****303-380-6540****BARC E-Mail Address****BARC@pobox.com****BARC Website****<http://www.thisistrue.com/barc.html>**

**Monthly Meetings are held on the  
Third Tuesday of every month  
at NIST @ 7:30 PM ( unless notified )**

**( "Minutes" cont. from page 1 )**

continued this month in the newsletter.

This month we had to change the meeting date to September 8th instead of our usual 3rd Tuesday meeting due to a scheduling conflict at NIST. It seems they are having a conference that week and the participants will be leaving materials in the rooms overnight. Just mark your calendars for this new date.

The WØDK QSL contest winner has been decided! Much to my surprise, my picture entry won! Yeah, I know what you're thinking! but I assure you, it wasn't rigged! We picked the pictures by a numbering system so no one knew who took the pictures that were entered. The cards have been ordered and will be back in a month. Thanks to all who participated. We intend to do this again in the Spring and choose another picture for additional QSL cards.

I'm very happy to announce that the BARC membership approved a scholarship endowment fund this year to be presented to one enrolled freshman for the 1999 Fall Semester. We now need a Scholarship Committee to define the parameters and overlook this activity. Any interested parties, please notify me. This wonderful activity will strengthen and confirm BARC's status as a club dedicated to the education of our Youth in Amateur Radio.

This year the ARRL Rocky Mountain Director and Vice Director are up for election. Marshall Quiat, AGØX would like to step down as Director and become the Vice-Director and Walt Stinson, WØCP would like to become the next Director and move up from his position currently as Vice Director. This would assure our region continued confident leadership from what has been a very complimentary team of officers. Let's support them with our votes this coming election.

See you at the meeting on September 8th and at BARCfest '98 on September 27th!  
73, de Jack, WMØG

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**Editor's Corner**

Hi there BARC's Bark-ers~

September is a-buzz with the hustle and bustle of activity. School is starting for all the Jr.'s and prepa-

rations are being completed for BARCfest which is sure to be something special - my house looks like a shipping and receiving dock for ham radio prizes and information packages that are arriving daily.

We put together some extra effort in getting the newsletter out earlier this week so that all of you would get it prior to the meeting, September 8th. Thanks to all the contributors for getting all their articles into us ahead of the deadline so that we could pull it off.

BARC Jr.'s column was fun editing this month with all the feedback from the Jr.s and Elmers who participated in their Field Day event. It seems to me that the fun of Field Day isn't just the operating but the camaraderie of the participants. It's great to see the kids and the adults meeting on a common ground (no electronic pun intended).

We have been trying to keep this newsletter a locally oriented enterprise with many of the contributions coming from the members themselves and we plan to continue to do so. Of course, from time to time, we include articles we extract from other sources if we feel those articles are relevant to the membership. However, we need more articles from you to keep the content fresh and interesting. So, I hope that we can continue to count on all of you. Your input is extremely valuable and solicited.

I'm looking forward to seeing everyone at BARCfest '98 and will be especially interested in attending the Youth Forum. By the way, if anyone takes any interesting pictures, we'd like to use them.

73 & 88, Mary

**To submit items for the BARC's Bark newsletter send them to: Mary Ciaccia at PO Box 21362, Boulder, CO 80308 - 4362 or Fax them to (303) 666-8613 or EMail them to:**

**WMØG@aol.com.**

**Articles need to be to the editor by the end of the month. Please be sure to put your name at the top of the article. -- ed.**





# Yap Yap

# "The Voice of BARC Jr."

## BARC Jr. Officers July - December 1998

President - Tyler, KBØSHT

Vice President - Chapman, KBØPON

Secretary - Walt, KCØBPC

Co-Treasurers - Crystal, KIØNR &  
Amory, KCØBPB

## Young Hams Net

Sundays at 7:00 PM  
146.700 (-600KHz Offset)

## Field Day Feedback

Each year BARC Jr. participates in ARRL Field Day. The goal is to work as many other stations across the U.S. in a 24-hour period under emergency power and field conditions. There is practice in setting up antennas, generators, radios, tents plus the logistics of feeding this crew and each year the kids not only do it better than they have before but they seem to have more fun as well. This year was no different. Below are some comments provided from the participants of this year's BARC Jr. Field Day.

"I liked the food. I liked making contacts. I liked talking to people from other states and countries"..... **Aaron M.** "My first experience -- tremendous! After dinner, I bounced between the ops tent and the small groups outside to chat. I even got in some studying time, believe it or not. Just about dark, a spattering of experienced and would-be musicians gathered to strum guitars and recall lyrics of past gone songs. What we didn't remember, we made up. Dave Casler, KEØOG, is phenomenal at ad-libbing. He made up the best Field Day ditty to the tune of 'House of the Rising Sun.' Talent must run in Dave's family 'cause his son, Jon, made the water cooler sound like bongos. Now that's talent".....**Nina, KCØDZU.** "At Field Day I mostly listened to conversations because I did not have a license then. What was most interesting was a group of adults (whose names I will not mention). They played old tunes. The band was made up of 3 acoustic

## BARCfest Donations Now Being Accepted !!

Now is the time to give that old ham "treasure" to a good cause. BARC Jr.'s will have a swap table at BARCfest and the proceeds are used for their expenses. Call Ellie, NØQCX at (303) 494-5578.

guitars, electric bass, a flute and singers.".....**Ian, KCØDZT.** "Field Day was unquestionably popular and busy. I spent all but 10 minutes waiting for a rig. Although shorting out the meter on the exercise bike was fun.".....**Morgan, KBØVWZ.** "I liked the music, especially the 'Bongo' (water cooler) and bass. I also liked 'Tag Team' operation.".....**Amory, KCØBPB.** "I was sad that I couldn't go to Field Day. I missed it because I had to go to Florida.".....**Jonathan V.B.** "Even though I didn't operate much or make many contacts, I had a good Field Day. I spent my time helping other kids make contacts. I would guide them, helping them learn the ropes. My reward was their faces, glowing with pride as they told of their contact that I helped make possible. The gift of giving gave all the reward I needed.".....**Crystal, KIØNR.** "While Field Day is really about amateur radio, the best part for me was breaking out musical instruments, voices and trying to recall songs of the 60's and 70's (and we were really trying.) Why, recalling lyrics of songs we hadn't heard in years was a challenge. It was enjoyable, good for laughs - and all present had a blast!".....**Marty, KBØVQK.** "I've done Field Day for 6 years. The first 3 were with the BARC Sr. and the past 3 with the BARC Jr. This year was, I think, the best year we've ever done. It was at the Elks Club. Everything worked well. The tent we got was great. It was a lot of fun this year.".....**Sarah, KBØZRV.** "Field Day was GREAT! BARC Jr. ran 3A plus one Novice station. We had the radios in operation all 24 hours. Many contacts were made and everyone had a great time. We had great food, socializing and even music. The best part?

## BARC Jr. Calendar

Sep 12 - 11:00AM BARC Jr. Board meeting  
Sep 12 - Next Regular BARC Jr. session from 2:00PM - 3:30PM  
Sep 27 - BARCfest & Youth Forum

The actual operating. It was great. This was our best Field Day yet.".....**Blair, KBØROM.** "The 1998 BARC Jr. Field Day was a huge

success. Field Day was held behind the Boulder Elks Lodge. My most memorable part was the operating. I made enough contacts to win a MFJ 24 Hour Clock.".....**Grant, KBØZQX.** "Field Day was an excellent excuse to practice my camping skills. Unlike camping, though, Field Day gives us a chance to talk to people from all over the world! I also enjoyed the late night singing of all those artistic hams.".....**Tim, KCØCNQ.** "I volunteered my dented, faded, primer painted, scratched, fast idling, loud, surplus farm vehicle, GM full-sized pickup truck to haul the antennas and tower sections to the BARC Jr. Field Day site. My day went kinda like this: load the pickup at Rip's with antennas and tower sections, etc..... unload the tower sections and antenna elements from the pickup so it will fit in the garage.....have to park in my wife, Marcy's space..... she concedes.....for the 'cause'..... Thank You!..... Next morning..... reload the tower sections and antenna elements back onto the ( see "BARC Jr." cont. on page 8 )

## BARC, Jr.

by Kathleen Monsees, Loyal Knight

The Boulder Amateur Radio Club, Junior held their annual World Field Day here at our lodge. They set-up, camped out, and transmitted and received messages for 24 hours the weekend of June 27 and 28. They had numerous stations working including computers, a radio run by a bicycle, and Morse Code. When I visited them, they gave me a wonderful demonstration and it was good to see the youth of our community using our lodge. Brother Ed was instrumental in having this group ask the Lodge for permission to use it for their location this year. Thanks, Ed! This is what Elkdom is all about!

from the Boulder Elk's Club Magazine  
August, 1998 Issue





## VIDEO VIEWS from CHAUTAUQUA

## Part IX of a multi-part ATV series

By Jim Andrews, WAØNHD-TV

## TV Bandwidth &amp; Modulation

In this issue I will discuss more about the technical aspects of a video signal. I will cover the required bandwidths and the methods we use to modulate a video signal in a TV transmitter. The previous part VIII ( See August BARC's Bark ) covered the technical parts of a video signal which comes from a color TV camera or camcorder. An NTSC video signal requires 4.2 MHz to achieve its full 525 line resolution capability. If the bandwidth is reduced then the picture becomes less distinct and images eventually start to smear out. If you look at a video signal on a spectrum analyzer, (See Fig. 1), you will find that it does not actually have its energy uniformly spread out over this full 4.2 MHz bandwidth. Most of the energy is actually down in the audio frequency range up to 100 KHz with dominant spectral spikes occurring at harmonics of the 15.75 KHz horizontal sync pulses and the 60 Hz vertical sync pulses. The vast majority of the energy is found below 1 MHz. The frequency content up to 4.2 MHz is however still important for maintaining crisp, sharp pictures.

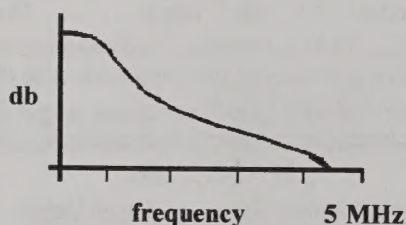


Fig. 1 Spectrum of B&amp;W video signal

When color "chroma" signals are added to a video signal, this is done using a sub-carrier technique. The chroma signals are amplitude and phase modulated onto a 3.58 MHz sub-carrier. This is then added onto the B&W video signal. The resultant is called composite video. The spectrum of the chroma signal thus fills up the frequency spectrum region between 3 and 4.2 MHz. ( See Fig. 2. ) This was a region which previously had little spectrum content from the B&W video signal. This new signal shows a distinct peak at the chroma subcarrier frequency of 3.58 MHz. The exact frequency of the color

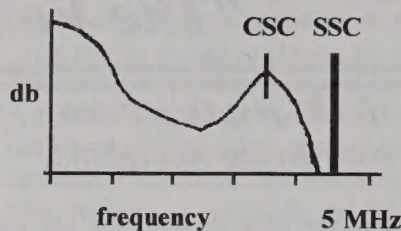


Fig. 2 Spectrum of video signal with 3.58 chroma &amp; 4.5 MHz sound subcarriers.

subcarrier was chosen by TV engineers to actually interleave within the sync pulse spectral spikes to minimize intermod distortion. If the TV system frequency response is not flat over the 0 to 4.2 MHz band, then severe distortion of the sub-carrier chroma signal will result. This will result in unnatural appearing colors on your TV screen.

How is this composite B&W + chroma video signal modulated onto a TV transmitter? The usual method is by Amplitude Modulation (AM). Sorry hams, but "Ancient Modulation" is still alive and well! This is the method used by all broadcast TV stations. The signals you find on your cable TV system are also AM. Well they are almost AM, but more details to follow! AM is usually accomplished by varying the collector voltage on the final amplifier transistor in a ham TV transmitter.

When a transmitter is AM modulated with the negative polarity TV signal ( see Fig. 1, in part VIII ), the RF output polarity is such that the RF envelope is of the opposite, positive polarity. This means that the transmitter's maximum peak power occurs at the sync tips and is the 100% modulation level. The white parts of the video occur at the transmitter's minimum power level of + 12.5% modulation. The blanking level is at the 75% modulation level.

In some TV transmitter designs a form of pulse modulation is also used to improve the overall linearity. Most amplifier designs push the final stage as hard as possible. Thus the output power vs. input power curve is not very linear at the highest output power levels. The amplifier is starting to saturate. To compensate for this non-linear gain at higher power levels, some TV modulators include a separate sync splitter and pulse amplifier to pulse modulate the final amplifier extra hard during the sync pulses.

Hams all know that when you do AM modulation of a transmitter you end up with double side bands. Thus if we had a video signal with 4.2 MHz of bandwidth, after AM

modulation we would end up with an RF signal occupying at least 8.4 MHz of bandwidth. This is in fact the case and when one looks at the spectrum of most ham TV transmitters, we see spectrum extending even much further than 8 MHz.

If we look at the spectrum of commercial broadcast TV or cable TV channels we instead will find that they only occupy 6 MHz of bandwidth. What is the difference? They in fact are not using simple AM, but in fact a form of sideband called Vestigial Upper Side Band (VUSB). The FCC mandates that their spectrums can not exceed 6 MHz. To do this they do selective filtering of their RF spectrum. They transmit the full 4.2 MHz of their upper sideband, their video carrier and 0.75 MHz of their lower sideband. Their VUSB filters then severely roll off their spectrums beyond these limits. The frequency response in TV receivers is tailored to compensate for this skewed VUSB radiation from TV transmitters. We will discuss VUSB filters in more detail next month.

We still have not discussed TV sound. How is it transmitted? TV sound is transmitted using FM modulation with +/- 25 KHz deviation. This is wider than the 5 KHz deviation used in our 2 meter HTs and less than the 75 KHz deviation used for broadcast FM ( 88-108 MHz ). Thus the sound quality of TV falls between that of our voice radios and hi-fi broadcast FM. The FM sound carrier is always placed 4.5 MHz above the video carrier frequency. Commercial broadcast TV stations actually use two separate transmitters, one for the video and the other for the audio. Ham TV transmitters take the cheap approach. They use a 4.5 MHz oscillator that is FM modulated with audio. This 4.5 MHz signal is then added as another subcarrier to the video signal the same as the color subcarrier was previously added. (See Fig. 2.) This composite video + pulse + 3.58 AM/phase modulation chroma + 4.5 FM audio signal is then used to AM modulate the final amplifier in the ham TV transmitter. The system works pretty good. However, if the subcarrier frequencies and levels are not well matched, then "beating" will occur between the two subcarriers and cause some interference patterns to appear in the color of the received picture.

For the 70cm ham band, AM TV transmitters are used. For the 23cm band both AM and FM TV transmitters are in use. For the even higher microwave ham bands, FM TV transmitters are used. We will discuss FM TV transmitters in a later issue.

73 de Jim, WAØNHD - TV



## 1998 BARC Meetings, Programs and Activities

**Sep 8** - Guest speaker will be Yardley Beers, WØJF with his presentation on *"When is a Trap Not a Trap?"*. His talk will be a discussion, without mathematics, of how multi-band antennas with L-C resonators in them work. There will be a further discussion on the properties of shortened dipoles compared with one half wavelength dipoles. Meeting at NIST, Rm 1107.

**Sep 27** - *BARCfest and ARRL Colorado District Convention*. The theme is *"Youth and Amateur Radio"*. A youth forum will be featured and the forum moderator will be Rosalie White, WA1STO head of the Education Activities Committee from ARRL HQ. Meet your Rocky Mountain ARRL representatives. For more info check the BARC website at URL:

<http://www.thisistrue.com/barc.html>

**Oct 20** - *QRP Home Brew Night* - Bring along any Home Brewed QRP Ham Radio gear (including kits) for *Show and Tell*. Guest speaker tonight will be Rich, WØHEP, President of the **Colorado QRP Club**, WØCQC. Meeting at NIST, Rm. 1107.

**Nov 17** - *Code Proficiency Test*. - How fast can you copy? Bring along your water-cooled pencils! The code proficiency test will be held at 6:30PM prior to the regular meeting. Certificates will be awarded. *"Time Coordination Around The World And How It Effects Radio Communications"*. Plus information on the atomic clock and the research going on here at NIST for an even more accurate clock. Guest speaker will be John Lowe from NIST. Meeting will be held at NIST, Rm. 1107.

**Dec 15** - *"The Space Environment and it's Effect on Radio Communications"* -

Presented by Dick Grubb, WØQM, Acting Director of the Space Environment Center. The Space Environment Center (SEC) provides real-time monitoring and forecasting of solar and geophysical events, conducts research in solar-terrestrial physics, and develops techniques for forecasting solar and geophysical disturbances. SEC's parent organization is NOAA. NIST, Rm 1107.

**Jan, 1999** - *BARC's annual holiday dinner*.  
Site, date and time to be determined.

## A Letter from ARRL's President



A number of members have asked why the ARRL Board of Directors, at its July 1998 meeting, decided to propose changes to the amateur radio licensing structure. Let me see if I can shed some light on some of the reasons for the proposed changes.

I am certain that some hams will find change itself to be very disconcerting. It is our nature to like things the way they are and the way they were. We're generally comfortable with that and not comfortable with change. In many instances, we would like to return to "the good old days" of ham radio. However, there are some very real reasons why amateur radio has to make some changes if it is to be around in the 21st century.

As amateur radio operators, we're slipping farther and farther behind on the technology power curve, and people take note of that. Take a look at the primary modes of communication we use: SSB, FM, CW, etc. Each of those modes of operation have been around 50, 60, 70 years or more. I was traveling by airplane not long ago and the person sitting next to me was a retired electrical engineer. As we chatted I told him about my involvement with amateur radio. He had a ham license about 45 years ago. He was amazed hams still use SSB, let alone CW. He wondered why the hams didn't use some of the more "modern" modes of communications. This is a typical reaction. We have to change people's perception of ham radio being a pursuit involving 70 year old communication techniques. One of the ways to help change that perception is to modernize our approach to CW. We're not eliminating it, we're simply trying to put in its proper perspective as we move into a new century. CW will be around for a very long time as one of the modes of communication for amateurs. There are still many people who use CW to communicate. However, as an examination element, it carries much more weight than it should at the present time. I believe the League proposal will put CW into a more proper perspective in the examination context as we try to bring amateur radio into the current technological environment.

I don't think there are many people who see CW as the future of amateur radio. If they do, in my opinion, they are looking backwards and not to the future of ham radio. And, as I

mentioned, we're not eliminating CW. There will be plenty of people operating CW just as they have for years. Most non-hams think of ham radio as a hobby. And as a matter of fact, most hams think of amateur radio as a hobby. Sure, the League tries to stress the emergency communications and the public service aspects of amateur radio to those that are unaware of that role and people outside of ham radio do have some understanding of that role of amateur radio. It is certainly one of the first things I tell people about amateur radio if they have no acquaintance with the amateur service. However, the bottom line is we're viewed as a hobby.

The point is, we have some very valuable spectrum that is available to us for hobby purposes, and yes, even for our public service activities. It has become more and more difficult in recent years to justify retaining and defending our spectrum from commercial interests who make some very good arguments as to why they should be allowed to use our spectrum for endeavors that will generate jobs, used advanced telecommunications techniques and put the spectrum to use for commercial purposes, not just for hobby purposes.

Even considering the perception that what we do is a "hobby," we can counter some of that perception that we're "a dying breed" clinging to old technologies when we can show that amateur radio is a vital, growing activity. One only has to look at the statistics in the last few years to find that to be untrue. In recent years the average age of an active ham has crept up to nearly 60 years old. The growth rate of new hams coming into the service is at a very low rate of less than 2%. That doesn't even keep up with the "loss rate" of people who die or simply leave amateur radio for various reasons. The argument that we need to retain spectrum for the growth of amateur radio in the face of such dwindling numbers is an unconvincing one to anyone, such as the FCC and commercial interests, who take a moment to look at the numbers.

Taking these factors into consideration, the perception of ham radio is one of an aging group of hobbyists who use "less than state-of-the-art" communication techniques. We may not like that perception but that is what it is in many circles of the communications industry. And of course the communications industry is where we have to compete for our spectrum. The changes proposed by the League are not the total solution to the problem. We still have to make an effort to

( See "ARRL" cont. on page 6 )



## Future Hamfests Calendar

### September 27 - BARCfest and Colorado District ARRL Convention

BARC's 45th annual swapfest and the 1998 Colorado District ARRL Convention will be held Sunday, September 27th from 8AM to 2PM at the Boulder County Fairgrounds. The theme is "Youth and Amateur Radio". A youth forum will be featured and the forum moderator will be Rosalie White, WA1STO of the Education Activities Division from ARRL HQ. Meet your Rocky Mountain ARRL representatives. HRO and the ICOM "Funmobile" will be there also with displays of their latest and greatest new radio equipment. Admission is \$4 at the door. Children 12 and under are free and young adults, ages 13 - 18, are 1/2 price admission or \$2. Table reservations are \$10/each prepaid (includes one free admission) or \$15/each at the door. There will be 4 HT's given away as door prizes. For more information and/or reservations, call the BARC 24 hour HotLine at: 303-380-6540 or via Email to: BARC@pobox.com. A reservation form is in this newsletter or on the BARC website at: <http://www.thisistrue.com/barc.html>

### October 15 thru 18 Microwave Update, 1998 Estes Park, CO

The annual Microwave Conference is being held at the Holiday Inn in Estes Park from Oct. 15 to Oct. 18, 1998. Technical talks and papers will be presented, equipment testing, an auction, door prizes, conference banquet are on order for this event. By reservation only. For more info call John Anderson, WD4MUO at (303) 258-3711 or Email him at: [wd4muo@webaccess.net](mailto:wd4muo@webaccess.net)

Up-to-date conference information, technical program content and schedule details plus spouse activities can be found at the following address:

[http://home.att.net/~n0ugy/MW\\_Update\\_98.html](http://home.att.net/~n0ugy/MW_Update_98.html)

*The 1998 Microwave Update conference  
chairman is Bill McCaa, KØRZ*

### ("ARRL" cont. from page 5)

move into more advanced communication techniques in the near future. We need to take advantage of some of the more cutting edge modes of digital communication to allow for more efficient use of the spectrum. The Board of Directors is aware that merely restructuring license classes and modernizing the CW testing requirements is not the whole answer. The League is going to have to take the lead in promoting technological advances within amateur radio even if it is just stressing the idea that amateurs put to use in amateur radio some of the techniques used by the commercial services. Hopefully, we'll be able to rise to that challenge. And it's not just the League that needs a different mindset to get us into the next century with a vital amateur radio. For example, we might persuade repeater coordinators to give priority to sanctioning repeaters that are going to be using advanced digital modes rather than the 50 year old narrow band FM mode.

We might even persuade radio manufacturers to market HF radios that use other modes than CW and SSB as the primary modes of communication below 30 MHz. There are digital techniques that can be applied to the amateur service that would make more efficient use of the spectrum and minimize the interference potential between stations.

I suppose the bottom line is we in amateur radio have to start thinking about the future and where we want amateur radio to be in the future. Changes within ham radio have been suggested for quite a number of years. The pressure for change has been building. The FCC has had a continuing stream of proposals from individual amateurs to make significant changes over the last ten years or so. The League, for various reasons, has resisted such change, myself included. However, I think the proposal the League recently adopted will move us as amateurs in the direction we need to be going.

I have resisted engaging in any debate about the pros and cons of CW and how it is or is not a filter for "quality" amateurs getting on the HF bands. There are plenty of people who will spend hours and hours debating that subject. I don't. Not only that, it misses the whole point of why the Board suggested the changes it did. If you have an urge to do that, I can suggest some Internet newsgroups where that debate has been raging for years and with no satisfactory conclusion I might add.

Any comments you have regarding the

specific provisions of the proposal can be addressed by filing comments with the FCC now that the matter is released for public comment.

I also have to make a comment about the "motives" of the members of the Board in making such a proposal. Some hams who are not in favor of the changes have said the Board made the move to make sure more radios were sold. Some have said it was to attract more members to the League. I can state without any hesitation that the Board acted in the best interests of amateur radio and for no other reason. Most all of the members of the Board have been amateurs for 35 years or so and some even much longer. These are not people who want to see amateur radio be hurt in any way. They don't spend 30 or 40 hours a week working on amateur radio matters for anything other than the benefit of amateur radio.

I don't think there is anyone on the Board who cares how many radios Yaesu, Icom or Kenwood sell. Those companies are involved in other commercial activities and the amateur radio segment of their business is not large in the context of their entire commercial enterprise. If one or more of those companies should leave the amateur radio market, some other company will fill the void and market amateur radios. Of course, that assumes there is an amateur radio service.

The League would obviously like to have more of the amateurs as members. I certainly don't dispute that. But that doesn't mean it will benefit any person on the Board if the League has additional members because we are volunteers to begin with. We don't get paid and we certainly don't get any bonuses if additional members join the organization. It actually means the League can provide more in the way of services to the members more than anything else.

I would hope that you would consider these factors in assessing the need for and the effect of the League's proposal. There's no reason the changes are being suggested other than they are needed. Other changes along the lines that I mentioned are also needed for the amateur service to continue to be a growing, valuable service.

73,  
Rod Stafford, W6ROD  
President, ARRL

(Via COham reflector)



## Colorado Amateur Radio License Exam Information

### Testing in Northern Colorado

**Boulder** - The Boulder VE Team holds exams the **2nd Monday of each month** at 7 PM at the LDS ( Mormon ) Church on 701 W. South Boulder Rd. in Louisville. Contact Ellie Van Winkle, NØQCX at (303) 494-5578 for details.

**Ft. Collins** - Exams are held the **second Saturday of odd months** at 9 AM at Colorado State University, Lory Student Center, Room 206, Ft. Collins, CO. Contact Steve Henry at (970) 226-2817.

**Longmont** - The Longmont Amateur Radio Club VE Team holds exams the **fourth Saturday of every month** at 10 AM at the Boulder County Fairgrounds, Administration Bldg., Longmont, CO. Contact Earle Cate, NØISB at (303) 776-9158 or Ray at (303) 776-2954.

**Greeley** - The Greeley VE Team holds exams on the **second Saturday of even months** at the University of Northern Colorado, 11th Ave. and 21st St., Ross Hall, Room 36, Greeley, CO 80631. Contact Andy Loomis at (970) 339-9836

### Denver Metro Testing

The South Metro VE Team holds test sessions the **first Saturday of every month** at the Castlewood Public Library, 6739 S. Uinta St., the SW corner of Arapahoe Rd. and Uinta, 1/2 mile West of I-25. Amateur Exams are held at 9 AM, Commercial Exams are held at 1 PM. For more info call David Avery, NØHEQ, at (303)795-5718.

The Mile High VE Team holds exams the **second Saturday of every month** at 9 AM at St. Luke's Episcopal Church, 1270 Poplar St. Enter from the parking lot at 13th Ave. and Quebec St. For details call Glenn or Karen Schultz at (303) 366-0155.

The Denver Radio Club VE Team holds exams the **third Thursday of every month** at 6:30 PM at Tech America, 1550 So. Colorado Blvd. For more info call Gil Hart, KØBLU (303)467-6850

The W5YI VE Team holds periodic testing in Aurora on the **last Sunday of every month** at 10 AM. For more info call Lee Tingle, KØLT, at (303) 364-6783

### Meeting Minutes - August 18, 1998

Jack Ciaccia, WMØG, BARC president, conducted our August club meeting. Although we had a large group this evening, ( over 30 people ), there were no newcomers or visitors with us.

Rip, NVØM, the club trustee, reported we have received an upgrade for our repeater controller. He will schedule a time to put it in. The upgrade expands the command set for the repeater, enabling more bells and whistles to further improve an already first-rate repeater. ( Note: the repeater sits idle for hours at a time. Use and enjoy it! It's a major benefit of club membership and is open to the entire amateur community. )

Ellie, NØQCX, gave a report on BARC Junior. The organization is at rest for the August break and will start its weekly meetings again in September. Ellie is busy getting ready. BARC Junior will put on the Youth Forum at the upcoming BARCfest, with participation from the ARRL in the form of Ms. Rosalie White, WA1STO. Larry Amman, K5TQN donated a brand new Cushcraft R7 for the kids to sell. BARC Junior is soliciting donations for items to sell at BARCfest--this is a major money-maker for the Juniors as well as the Seniors.

Our newsletter editor, Mary Ciaccia, was not present, but Jack, WMØG, spoke on her behalf, asking for more articles for the newsletter. This newsletter is gaining recognition up and down the front range as one of the better (and fatter) club newsletters in the area; this is due to member contributions. Special thanks to Jim Andrews for his ATV series. One member mentioned the availability of materials on the web, such as from the ARRL, but Jack and Mary would very much like to keep a local focus, if possible, so the newsletter is not a repeat of material published elsewhere. Some ideas might be what people are doing for satellite work, digital, DX, etc.

Rip, NVØM, reported on the work of the technical and interference committee. There has been some QRM to the repeater, but it is now reduced.

Dave, KEØOG, reported on behalf of Loretta, KBØVWW, for the health and welfare committee. One get well card was sent out earlier this month at Jack's request. Another card was circulated at the meeting for Tim Armagost, WBØTUB, the ARRL Section Manager for the Rocky

Mountains, who is recovering from a serious illness. Two boxes of cards were donated to the club for H&W purposes by John, NØRUP. Loretta now has these.

Rich, NØSH, gave a VE report. So far our fledgling team has tested 32 candidates and has issued 18 upgrades or CSCE's. Our July session was our biggest ever. We thank all the VE's who help out!

Dan, NØNLS, gave a BARCfest report. He needs two people to help check people in starting at 5:30am on the day of BARCfest. He would also like help calling club members to get volunteers, as he works odd hours. He particularly needs help at the doors. Several people volunteered to help staff the doors. BARC Junior will again do the table setup the night before ( the club will buy pizza for them ). Help is also needed for teardown. Last year Dan had 12 people help with the teardown--it only took 45 minutes.

There will be VE testing at BARCfest and Rich needs volunteers to help with that. The ARRL section meeting will go from 8:30 to 9:30am. The Youth Forum starts at 10am and will go until it is finished, which might be past the nominal hour currently scheduled for it. There will be four door prizes; people must be present to win; these will be given away at 9, 10, 11 and 12. The door prizes are four HT's. In addition there will be other door prizes. ( Note--door prize announcements will be made in the side meetings as well ). We have invited several other clubs and have given them each one free table--we hope this will encourage members of these other organizations to patronize our swapfest. Dan has already sent out around 1200 flyers. He still needs to coordinate with the Quilter's association about tables. He has the tickets already. The County is taken care of. Dave, KEØOG, the club treasurer, will get change. Dan can be contacted by e-mail at: n0nls@aol.com

Jim, NØVLE, reported for the program committee. There has been a change. Yardley Beers, WØJF will speak at our September meeting on "When is a Trap Not a Trap". John Lowe will speak at our November meeting. Note the change in meeting date for September. Due to room unavailability for our regular date, the September meeting will take place on September 8th, which is the second Tuesday of the month.

Jack discussed several new items. The first was the QSL card photo contest. There were several entries. These were discussed at length. The one selected by the club members present turned out to be one taken by Jack

( See "Minutes" cont. on page 8 )



*( BARC Jr. Cont. from page 3 )*

pickup..... our cat, 'Lucky', gets out...not a good thing.... he's an indoor cat and out of touch with reality....find and chase 'Lucky' the cat.... return him to his indoor environment.... this is a good thing. Arrive late to Field Day site with antenna parts and tower pieces a-clanking, sheet metal a-creaking, suspension parts a-squeaking, exhaust pipes a-blaring and wonder why everyone is looking at me! My much used pickup truck earns the nickname 'The Eggbeater' (thanks Rick!).... **Marc, ABØGX**. "I liked powering the radio with the bicycle and finding someone on the air and playing Yahtzee with Crystal's brother.... **Stephen B.** "Making 112 CW contacts.....hearing CW everywhere you listened at night." ....**Walt, KCØBPC**. "BARC Jr. Field Day '98 (a.k.a. Woodstock '98) featuring.....Ian Anderson (a.k.a. NØTMP) Stevie Nicks (a.k.a. Nina, KCØDZU) Desi Arnez, Jr. (a.k.a. Jonathan 'Babaloo' Casler) Paul McCartney (a.k.a. Eric, KGØYS) The 'Z. Z. Top Guy' (a.k.a. Al, WB2PRZ) Art Garfunkle (a.k.a. Marty) Paul Simon (a.k.a. Mark)" **Mark, KBØTHH**.

### **FCC Wants Amateur Radio Operator's Ideas**

On 11 August, the FCC finally released their restructuring document. Broken down into plain English, this is what it all means. The FCC has proposed eliminating the Novice and Technician Plus license classes. The Commission says the Novice and Tech + license classes are no longer needed. This would leave the Technician, General, Advanced and Amateur Extra license classes intact.

What about Morse code requirements? CW requirements will change, but the FCC wants our input as to what those requirements should be.

FCC officials are also asking for our input in regards to examinations, what theory should be required and what method the VE teams should use for Morse code testing.

This is an excellent chance for all of us to voice our opinions and recommendations. Please don't resort to expressing opinions that are NOT going to have a positive input in this process.

The comment period is now open, and comments are being accepted on paper and by electronic mail until 01 December 1998. To file your comment electronically, go to the FCC homepage at: <http://www.fcc.gov/wireless> and leave your comments.

### **Congratulations !!**

Our congratulations go to Walt, KCØBPC for upgrading to General Class and to Nina and Ian for passing the Tech Plus Exam. That makes 116 new hams who have been licensed to date through the BARC Jr. program.

### **The Proverbial Web**

Here are 26 extremely useful proverbs for everyone who is overwhelmingly, obsessively, totally engaged in surfing the web!

Home is where you hang your @.  
The E-mail of the species is more deadly than the mail.  
A journey of a thousand sites begins with a single click.  
You can't teach a new mouse old clicks.  
Great groups from little icons grow.  
Speak softly and carry a cellular phone.  
C: is the root of all directories.  
Don't put all your hypes in one home page.  
Pentium wise; pen and paper foolish.  
The modem is the message.  
Too many clicks spoil the browse.  
The geek shall inherit the earth.  
A chat has nine lives.  
Don't byte off more than you can view.  
FAX is stranger than fiction.  
What boots up must come down.  
Windows will never cease.  
In Gates we trust.  
Virtual reality is its own reward.  
Modulation in all things.  
A user and his leisure time are soon parted.  
There's no place like <<http://www.home.com/>>.  
Know what to expect before you connect.  
Oh, what a tangled website we weave when first we practice.  
Speed thrills.  
Give a man a fish and you feed him for a day; teach him to use the Net and he won't bother you for weeks.

*This appeared in the July/August 1998 issue of "The LongWire", the newsletter of the Liverpool Amateur Repeater Club, Bob Jackson-WB2BJW Editor.*

The Ham Talk column will not be published this month due to vacation by Bob Johnson, NQ5P but will be back next month... ed.

*("Minutes" cont. from page 7)*

himself.

Jack discussed the new proposal now being considered by the FCC to simplify the ham radio licensing structure. There are no longer any hams or friends of the ham community at the FCC. The ARRL has come up with a counterproposal. Be sure to voice your feelings to the FCC. The deadline has been extended to Dec. 1, 1998.

There will be an upcoming ARRL election. The current ARRL Rocky Mountain Director Marshall Quiat, AGØX and Vice Director Walt Stinson, WØCP want to switch hats.

Jack brought up the subject of a scholarship endowment fund -- whether the club should offer a \$500/year scholarship. This would be available to a Boulder County graduating senior who is a ham. Jack will form a scholarship committee to look into the idea and propose some eligibility rules, which will then be brought back before the club for discussion and a vote. Ellie, NØQCX made the motion, Gary, WØQN seconded it. One item of discussion was an inquiry to the treasurer as to whether we could afford it. Dave responded the treasury is healthy. The motion to form a scholarship committee to work on the idea was unanimously passed.

Following a break, Jim Andrews, WAØNHD, gave an excellent presentation and demonstration about amateur television (ATV).

*Respectfully submitted,  
Dave Casler, KEØOG - BARC Treasurer  
for Randy Cassingham, KØRCC - BARC Club Sec'y - (who was unable to attend.)*

### **AMSAT-NA Meeting & Space Symposium Oct 16th through 18th**

The upcoming AMSAT-NA 16th Annual Meeting and Space Symposium is to be held October 16-18, 1998 in Vicksburg, Mississippi.

Registration information and forms are available in the July/August issue of The AMSAT-NA Journal. They are also available at the following web site:  
<http://pages.prodigy.com/DXHF93A/>

Additional details on the symposium can be obtained by contacting Russ Tillman, K5NRK at the following e-mail address: [k5nrk@amsat.org](mailto:k5nrk@amsat.org)

*( Via AMSAT News Service )*



The Boulder Amateur Radio Club presents the 45<sup>th</sup> Annual

# BARCfest

## Amateur Radio & Computer Swap



Sunday, September 27, 1998 at the  
Boulder County Fairgrounds

Longmont, Colorado

8:00 a.m. to 2:00 p.m.

Admission: Adults \$4, age 13-18 \$2, 12 & under free

### Door Prizes!

Portable Ham Radios to be given away every hour from 9:00 a.m. to noon!

*And many other Prizes*

## 1998 Special Attractions!

### ARRL Colorado Section Annual Convention

Meet your ARRL Rocky Mountain Representatives at the ARRL Forum from 8:30 a.m. to 9:30 a.m.

### VE Testing by the Boulder VE Team

Get a new license or upgrade your license class. Begins at 10:00 a.m. at Fairgrounds Administration Building.

### Youth in Amateur Radio Forum

What's the future of ham radio? Find out what **BARC** and **BARC Jr.** is doing to bring youngsters into our hobby. Bring your kids to see what other kids are doing! Forum begins at 10:00 a.m.

**Special Guest Moderator: Ms. Rosalie White, WA1STO, of ARRL Headquarters' Education Division.**

*All kids (<18) in Attendance Eligible for Prizes!*

### Boulder County's Emergency Communications Van

A Mobile Command Post Providing Emergency Communications for Law Enforcement, Fire, and Disasters

**Includes:** Boulder County Amateur Radio Emergency Service (BCARES)

Packet, ATV, 2 meter and 70 cm amateur stations.

**EXTRA! EXTRA! HRO and ICOM's "Funmobile" will be here too !**

*For Information Updates See*

<http://www.thisistrue.com/barc.html>

or call 303-380-6540 (24 hrs)

*Talk-In on 146.70 (-)*

*WØDK - The BARC Repeater*

*See other side for*

*Vendor Table Information*



# BARCfest Table Reservations

Sunday, September 27, 1998  
Boulder County Fairgrounds  
Longmont, CO

Cost: \$10.00 per table (pre-paid) or \$15.00 (at the Door)  
One admission is included with each paid reservation

*Tables Are Assigned on a First Come, First Served Basis*

Your Prepaid Table Reservation Must be Postmarked by September 18, 1998

Yes, Please Reserve \_\_\_\_\_ Tables at \$10.00 each = \$ \_\_\_\_\_

Plus, Add \_\_\_\_\_ Extra Admission Tickets at \$4.00 each = \$ \_\_\_\_\_

For a Total of \$ \_\_\_\_\_ , Enclosed.

Will You Need AC Power at Your Table(s) ? \_\_\_\_ Yes / \_\_\_\_ No

Contact Name: \_\_\_\_\_ Call: \_\_\_\_\_

Company Name: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone: (\_\_\_\_) \_\_\_\_\_ Fax: (\_\_\_\_) \_\_\_\_\_

E-Mail: \_\_\_\_\_

Mail this Entire Page with Check for Full Amount Made Payable To **BARC** to:

**BARC**  
PO Box 17362  
Boulder, CO 80308

Your Prepaid Table Reservation Must be Postmarked by September 18, 1998 !!



**Microwave Update, 1998****Estes Park, Colorado****October 15 - 18, 1998**

Dear Fellow Amateur,

The time is quickly approaching to plan for your attendance at this year's Microwave Update Conference. You will find a copy of the Conference Registration Form, Hotel registration information, and a brief outline of the schedule of the events.

Fifty rooms at a special conference rate of \$75/single have been reserved at the Holiday Inn Resort at Estes Park where the conference will be held. You can contact the Holiday Inn Resort at: 800-803-7837 and be sure to mention you are registering for the Microwave Update 1998 Conference. Also note for past attendees in Estes Park, This is a different Motel than used in the recent past. Room rates are guaranteed until all the rooms are filled or until September 28, which ever occurs first.

This years excellent technical program is being organized by John Anderson, WD4MUO, and the program and speakers are in the process of being finalized. If you wish to present a technical talk, and/or contribute a paper to these proceedings, please contact John, A.S.A.P at the following:

John Anderson, WD4MUO, program and proceedings coordinator

3592 Ridge Road Nederland, CO 80466

Tel: 303-258-3711

E-mail: wd4muo@webaccess.net

Although a formal spouse program is not being planned, Judy Anderson has offered to coordinate the spouse activities. Those interested should contact Judy Anderson with their ideas at the same address/telephone /e-mail shown above for John Anderson.

A Conference buffet banquet with both Beef and Chicken is being planned for Saturday (10/17) evening and it will be held at the hotel. The cost is \$25 per person. The Barleen Family have closed their Country Dinner Theater, so this option is not available for this years conference.

Up-to-date conference information, technical program, schedule details, spouse activities are available at the address:

[http://home.att.net/~n0ugy/MW\\_Update\\_98.html](http://home.att.net/~n0ugy/MW_Update_98.html)

The Conference Committee and myself look forward to seeing you in Estes Park this October.

Sincerely,

*Bill McCaa*

Bill McCaa, KØRZ,

1998 Conference Chairman

**Microwave Update '98 - Conference Registration****October 15-18, 1998, Estes Park, Colorado**

Name: \_\_\_\_\_ Call Sign: \_\_\_\_\_  
 Spouse Name: \_\_\_\_\_ Call Sign: \_\_\_\_\_  
 Address: \_\_\_\_\_ Phone Number: \_\_\_\_\_  
 \_\_\_\_\_ Email Address: \_\_\_\_\_  
 \_\_\_\_\_

Conference Fee (Received by September 10, 1998)	\$40	\$
Spouse Attending Conference (Rcvd by 9-10-98)	\$28	\$
Conference Fee (Received after September 10, 1998)	\$45	\$
Spouse attending Conference (Rcvd after 9-10-98)	\$33	\$

I will bring a LNA, filter, oscillator/L.O., oscillator/L.O./PA,  
 or converter for test.  
 Which one(s): \_\_\_\_\_

Saturday Banquet ticket(s): \_\_\_\_\_ \$25 each \$

I would like to contribute a door prize to the conference  
 (Yes/No)

Extra copies of the proceedings: \_\_\_\_\_ \$12 each \$

I would like to donate something to the auction (Yes/No)  
 Please describe: \_\_\_\_\_

[1] Spouse fee does not include proceedings. **Total Submitted** \_\_\_\_\_ \$

For above, please contact John Anderson, WD4MUO by  
 October 1, 1998

Mail Promptly to: **Bill McCaa, KØRZ**  
**P.O Box 3214**  
**Boulder, CO 80307**



## 1998 Boulder Amateur Radio Club Membership / Renewal Application

The BARC Membership year is from January 1 to December 31.

Please supply all the information requested below :

Date: \_\_\_\_\_ Call: \_\_\_\_\_  
 Name: \_\_\_\_\_  
 Other Family Member Name: \_\_\_\_\_ Call: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 City & State: \_\_\_\_\_  
 Zip Code +4: \_\_\_\_\_  
 Phone: \_\_\_\_\_ E-Mail: \_\_\_\_\_

Membership type: \_\_\_\_\_ {R, C, A}  
 License Class: \_\_\_\_\_ {E,A,G,T+,T,N or blank}  
 Year Licensed: \_\_\_\_\_ ( Year first license was granted )  
 ARRL Member: \_\_\_\_\_ ( Y or N ) License Expires: \_\_\_\_\_

**REMINDER:** BARC membership dues are payable at the first of the year. If you are a **BARC Jr.** whose family does **NOT** belong to **BARC** ( not part of a family membership ), then your yearly dues are also due January 1st. If you want to pay now, your dues will be paid through December, 1998.

### Membership Types:

**R ( Regular ) -- \$ 18 / year**

*Note: Family members are included in regular memberships in the same household.*

**C ( Child ) -- \$ 6 / year\***

*\*Child memberships are for children 17 years of age or younger whose parents are **not** members of B.A.R.C.*

**A ( Associate ) -- \$ 18 / year**

**Make checks payable to B.A.R.C.  
and Mail to :**

**B.A.R.C. Membership  
P.O. Box 17362  
Boulder, CO 80308-3362**



## B.A.R.C.'s Bark

**Boulder Amateur Radio Club  
P.O. Box 17362  
Boulder, CO 80308-3362**

**THE MEETING DATE HAS BEEN  
CHANGED FOR THIS MONTH !!**

Sep 8 - Guest speaker will be Yardley Beers, WØJF with his presentation on "When is a Trap Not a Trap?". His talk will be a discussion, without mathematics, of how multi-band antennas with L-C resonators in them, work. There will be a further discussion on the properties of shortened dipoles compared with one half wavelength dipoles. Meeting at NIST, Rm 1107.

Membership expires end of: 1998

Randy Cassingham K0 RCC  
PO Box 17326  
Boulder CO 80308-0326